

## ABSTRACT

A displacement detector is provided, which can compensate a change in temperature coefficient of impedance of a coil to a displacement of a core. The detector comprises a constant-current supply unit for outputting a constant current including an alternating current, a coil portion, to which the constant current is supplied, a magnetic core supported to be movable relative to the coil portion in a movable range, and a signal processing circuit for determining a displacement of the core to the coil portion according to a change in output voltage of the coil portion under the supply of the constant current to the coil portion, characteristic-value extracting unit for extracting a characteristic value (V1) from the output voltage of the coil portion, and a level shift circuit for adding a level shift voltage (Vsh) to the characteristic value. A fluctuation width of temperature coefficient of a total (V2) of the characteristic value (V1) and the level shift voltage (Vsh) in the movable range is smaller than the fluctuation width of temperature coefficient of the characteristic value (V1) in the movable range.

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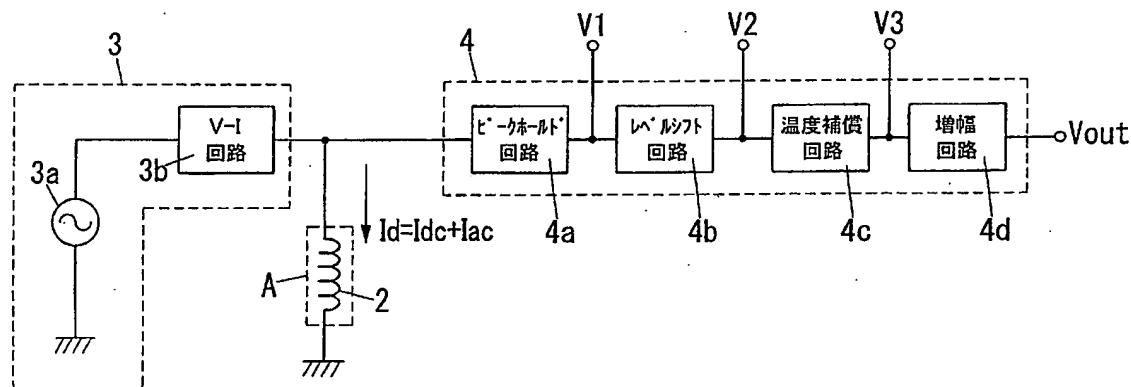
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## (54) Title: DISPLACEMENT-DETECTING DEVICE

## (54) 発明の名称: 変位検出装置



3b...V-I CIRCUIT

4a...PEAK HOLD CIRCUIT

4b...LEVEL SHIFT CIRCUIT

4c...TEMPERATURE COMPENSATION CIRCUIT

4d...AMPLIFICATION CIRCUIT

(57) **Abstract:** A displacement-detecting device capable of compensating a change in an impedance temperature coefficient of a coil relative a displacement of a core. The displacement-detecting device includes constant current-supplying means for outputting a constant current including alternating current, a coil portion to which the constant current is supplied, a magnetic body core held so as to be movable relative to the coil portion in a predetermined movable range, a signal-processing circuit for obtaining, with the constant current being supplied to the coil portion, a displacement of the core relative to the coil portion based on a change in an output voltage from the coil portion, characteristic value-extracting means for extracting a characteristic value (V1) from the output voltage from the coil portion, and a level shift circuit for adding a level shift voltage (Vsh) to the characteristic value. A temperature

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